

## **AMENDMENTS TO THE CLAIMS**

The following listing of claims will replace all prior versions and listings of claims in the application.

### **LISTING OF CLAIMS**

1. (Cancelled)
2. (Currently Amended) The method of claim 4 8, further comprising:  
sending a jam signal before transmitting the second frame.
3. (Currently Amended) The method of claim 4 8, further comprising:  
after terminating the transmission, incrementing an attempt count; and  
discarding the first frame when the attempt count exceeds a  
predetermined attempt threshold.
4. (Currently Amended) The method of claim 4 8, wherein each class of  
service has a predetermined attempt threshold, further comprising:  
after terminating the transmission, incrementing an attempt count; and  
discarding the first frame when the attempt count exceeds the  
predetermined attempt threshold for the class of service of the first frame.
5. (Currently Amended) The method of claim 4 8, further comprising:  
after terminating the transmission, incrementing the attempt count; and

discarding the first frame when the attempt count exceeds a predetermined attempt threshold and the class of service of the first frame falls below a predetermined discard threshold.

6. (Currently Amended) The method of claim 4 8, further comprising:  
computing a back-off period after terminating the transmission when no frame ready for transmission has a higher class of service than the first frame; and  
retransmitting the first frame when the back-off period has elapsed.

7. (Original) The method of claim 6, wherein computing the back-off period comprises:  
computing the back-off period as a function of the class of service of the first frame.

8. (Previously Presented) A method for communicating on a half-duplex channel, the method comprising:  
transmitting a first frame;  
terminating transmission of the first frame when a collision is detected during the transmission;  
transmitting a second frame before retransmitting the first frame when the second frame has a higher class of service than the first frame, wherein each class of service has an attempt count;

after terminating the transmission, incrementing the attempt count for the class of service of the first frame and for any other class of service that is not greater than the class of service of the first frame and for which a frame is pending transmission; and

discarding all pending frames having an attempt count that exceeds a predetermined attempt threshold.

9. (Original) The method of claim 8, further comprising:

before transmitting the second frame, transmitting a pending frame having a highest class of service that is less than the class of service of the first frame if the first frame was discarded.

10. (Previously Presented) A method for communicating on a half-duplex channel, the method comprising:

transmitting a first frame;

terminating transmission of the first frame when a collision is detected during the transmission;

transmitting a second frame before retransmitting the first frame when the second frame has a higher class of service than the first frame, wherein each class of service has an attempt count and a predetermined attempt threshold;

after terminating the transmission, incrementing the attempt count for the class of service of the first frame and for any other class of service that is not greater

than the class of service of the first frame and for which a frame is pending transmission; and

discarding each pending frame when the attempt count for that frame exceeds the predetermined attempt threshold for the class of service for that frame.

11. (Previously Presented) A method for communicating on a half-duplex channel, the method comprising:

transmitting a first frame;

terminating transmission of the first frame when a collision is detected during the transmission;

transmitting a second frame before retransmitting the first frame when the second frame has a higher class of service than the first frame, wherein each class of service has an attempt count;

after terminating the transmission, incrementing the attempt count for the class of service of the first frame and for any other class of service that is not greater than the class of service of the first frame and for which a frame is pending transmission; and

discarding a given pending frame having an attempt count that exceeds a predetermined attempt threshold when the class of service of the given pending frame falls below a predetermined discard threshold.

12. (Currently Amended) The method of claim 4 8, further comprising:

computing a back-off period after terminating the transmission when no frame ready for transmission has a higher class of service than the first frame; and  
retransmitting the first frame when the back-off period has elapsed.

13. (Original) The method of claim 12, wherein computing the back-off period comprises:

computing the back-off period as a function of the class of service of the first frame.

14. (Cancelled)

15. (Currently Amended) The media of claim 44 21, wherein the method further comprises:

sending a jam signal before transmitting the second frame.

16. (Currently Amended) The media of claim 44 21, wherein the method further comprises:

after terminating the transmission, incrementing an attempt count; and

discarding the first frame when the attempt count exceeds a predetermined attempt threshold.

17. (Currently Amended) The media of claim 14 21, wherein each class of service has a predetermined attempt threshold, and wherein the method further comprises:

after terminating the transmission, incrementing an attempt count; and  
discarding the first frame when the attempt count exceeds the predetermined attempt threshold for the class of service of the first frame.

18. (Currently Amended) The media of claim 14 21, wherein the method further comprises:

after terminating the transmission, incrementing the attempt count; and  
discarding the first frame when the attempt count exceeds a predetermined attempt threshold and the class of service of the first frame falls below a predetermined discard threshold.

19. (Currently Amended) The media of claim 14 21, wherein the method further comprises:

computing a back-off period after terminating the transmission when no frame ready for transmission has a higher class of service than the first frame; and  
retransmitting the first frame when the back-off period has elapsed.

20. (Original) The media of claim 19, wherein computing the back-off period comprises:

computing the back-off period as a function of the class of service of the first frame.

21. (Previously Presented) Computer-readable media embodying instructions executable by a computer to perform a method for communicating on a half-duplex channel, the method comprising:

transmitting a first frame;

terminating transmission of the first frame when a collision is detected during the transmission;

transmitting a second frame before retransmitting the first frame when the second frame has a higher class of service than the first frame, wherein each class of service has an attempt count;

after terminating the transmission, incrementing the attempt count for the class of service of the first frame and for any other class of service that is not greater than the class of service of the first frame and for which a frame is pending transmission; and

discarding all pending frames having an attempt count that exceeds a predetermined attempt threshold.

22. (Previously Presented) Computer-readable media embodying instructions executable by a computer to perform a method for communicating on a half-duplex channel, the method comprising:

transmitting a first frame;

terminating transmission of the first frame when a collision is detected during the transmission;

transmitting a second frame before retransmitting the first frame when the second frame has a higher class of service than the first frame; and

before transmitting the second frame, transmitting a pending frame having a highest class of service that is less than the class of service of the first frame if the first frame was discarded.

23. (Previously Presented) Computer-readable media embodying instructions executable by a computer to perform a method for communicating on a half-duplex channel, the method comprising:

transmitting a first frame;

terminating transmission of the first frame when a collision is detected during the transmission;

transmitting a second frame before retransmitting the first frame when the second frame has a higher class of service than the first frame, wherein each class of service has an attempt count and a predetermined attempt threshold;

after terminating the transmission, incrementing the attempt count for the class of service of the first frame and for any other class of service that is not greater than the class of service of the first frame and for which a frame is pending transmission; and

discarding each pending frame when the attempt count for that frame exceeds the predetermined attempt threshold for the class of service for that frame.



24. (Previously Presented) Computer-readable media embodying instructions executable by a computer to perform a method for communicating on a half-duplex channel, the method comprising:

transmitting a first frame;

terminating transmission of the first frame when a collision is detected during the transmission;

transmitting a second frame before retransmitting the first frame when the second frame has a higher class of service than the first frame, wherein each class of service has an attempt count;

after terminating the transmission, incrementing the attempt count for the class of service of the first frame and for any other class of service that is not greater than the class of service of the first frame and for which a frame is pending transmission; and

discarding a given pending frame having an attempt count that exceeds a predetermined attempt threshold when the class of service of the given pending frame falls below a predetermined discard threshold.

25. (Currently Amended) The media of claim 14 21, wherein the method further comprises:

computing a back-off period after terminating the transmission when no frame ready for transmission has a higher class of service than the first frame; and

retransmitting the first frame when the back-off period has elapsed.

26. (Original) The media of claim 25, wherein computing the back-off period comprises:

computing the back-off period as a function of the class of service of the first frame.

27. (Currently Amended) An apparatus for use in a half-duplex channel, the apparatus comprising:

transmitting means for transmitting data over the half duplex channel;

control means for terminating the transmitting means from transmitting a first frame of the data when a collision is detected during the transmission;

first port means for including the transmitting means and for sending a replace signal that indicates a class of service of the first frame; and

switch control means for receiving the replace signal and for determining whether a second frame of the data has a higher class of service than the first frame in response to the replace signal,

wherein the transmitting means transmits a second frame of the data before retransmitting the first frame when the second frame has a higher class of service than the first frame; and

a plurality of attempt counter means, each for counting transmission attempts by the transmitter means of frames in one of a plurality of classes of service,

wherein the control means, after terminating the transmission, increments the attempt counter means for the class of service of the first frame and for any other

class of service that is not greater than the class of service of the first frame and for which a frame is pending transmission, and discards all pending frames having an attempt count that exceeds a predetermined attempt threshold.

28. (Original) The apparatus of claim 27, wherein the transmitting means, in response to the control means, sends a jam signal before transmitting the second frame.

29. (Original) The apparatus of claim 27, further comprising:  
attempt counter means for counting transmission attempts by the transmitting means,  
wherein the control means, after terminating the transmission of the transmitting means, increments the attempt counter means; and  
wherein the control means discards the first frame when the attempt count of transmission attempts by the attempt counter means exceeds a predetermined attempt threshold.

30. (Original) The apparatus of claim 27, wherein each class of service has a predetermined attempt threshold, further comprising:  
attempt counter means for counting transmission attempts by the transmitting means;  
wherein the control means, after terminating the transmission of the transmitting means, increments the attempt counter means; and

wherein the control means discards the first frame when the attempt count of transmission attempts by the attempt counter means exceeds the predetermined attempt threshold for the class of service of the first frame.

31. (Original) The apparatus of claim 27, further comprising:

attempt counter means for counting transmission attempts by the transmitting means;

wherein the control means, after terminating the transmission of the transmitting means, increments the attempt counter means; and

wherein the control means discards the first frame when the attempt count of transmission attempts by the attempt counter means exceeds a predetermined attempt threshold and the class of service of the first frame falls below a predetermined discard threshold.

32. (Original) The apparatus of claim 27, further comprising:

compute means for computing a back-off period after terminating the transmission when no frame ready for transmission has a higher class of service than the first frame; and

wherein the transmitting means in response to the control means retransmits the first frame when the back-off period has elapsed.

33. (Original) The apparatus of claim 32, wherein the compute means computes the back-off period as a function of the class of service of the first frame.

34. (Cancelled)

35. (Currently Amended) The apparatus of claim 34 27, wherein the control means, before transmitting the second frame, transmits a pending frame having a highest class of service that is less than the class of service of the first frame if the first frame was discarded.

36. (Currently Amended) An apparatus for use in a half-duplex channel, the apparatus comprising:

transmitting means for transmitting data over the half duplex channel;

control means for terminating the transmitting means from transmitting a first frame of the data when a collision is detected during the transmission;

first port means for including the transmitting means and for sending a replace signal that indicates a class of service of the first frame;

switch control means for receiving the replace signal and for determining whether a second frame of the data has a higher class of service than the first frame in response to the replace signal,

wherein the transmitting means transmits a second frame of the data before retransmitting the first frame when the second frame has a higher class of service than the first frame and ~~The apparatus of claim 27, wherein each class of service has an attempt count and a predetermined attempt threshold, further comprising; and~~

a plurality of attempt counter means, each for counting transmission attempts by the transmitter means of frames in one of a plurality of classes of service;

wherein the control means, after terminating the transmission, increments the attempt count means for the class of service of the first frame and for any other class of service that is not greater than the class of service of the first frame and for which a frame is pending transmission; and

wherein the control means discards each pending frame when the attempt count of transmission attempts by the attempt counter means for that frame exceeds the predetermined attempt threshold for the class of service for that frame.

37. (Currently Amended) An apparatus for use in a half-duplex channel, the apparatus comprising:

transmitting means for transmitting data over the half duplex channel;

control means for terminating the transmitting means from transmitting a first frame of the data when a collision is detected during the transmission;

first port means for including the transmitting means and for sending a replace signal that indicates a class of service of the first frame;

switch control means for receiving the replace signal and for determining whether a second frame of the data has a higher class of service than the first frame in response to the replace signal,

wherein the transmitting means transmits a second frame of the data before retransmitting the first frame when the second frame has a higher class of

service than the first frame and ~~The apparatus of claim 27, wherein each class of service has an attempt count, further comprising:; and~~

a plurality of attempt counter means, each for counting transmission attempts by the transmitter means of frames in one of a plurality of classes of service;

wherein the control means, after terminating the transmission, increments the attempt count means for the class of service of the first frame and for any other class of service that is not greater than the class of service of the first frame and for which a frame is pending transmission; and

wherein the control means discards a given pending frame having an attempt count of transmission attempts by the attempt counter means that exceeds a predetermined attempt threshold when the class of service of the given pending frame falls below a predetermined discard threshold.

38. (Original) The apparatus of claim 27, further comprising:

compute means for computing a back-off period after terminating the transmission when no frame ready for transmission has a higher class of service than the first frame; and

wherein the transmitting means in response to the control means retransmits the first frame when the back-off period has elapsed.

39. (Original) The apparatus of claim 38, wherein the compute means computes the back-off period as a function of the class of service of the first frame.

40. (Currently Amended) An apparatus for use in a half-duplex channel, the apparatus comprising:

a transmitter to transmit data over the half duplex channel;

a controller to terminate the transmitter from transmitting a first frame of the data when a collision is detected during the transmission;

a first port that includes the transmitter and that sends a replace signal that indicates a class of service of the first frame; and

a switch controller that receives the replace signal and that determines whether a second frame of the data has a higher class of service than the first frame in response to the replace signal,

wherein the transmitter, in response to the controller, transmits the second frame of the data before retransmitting the first frame when the second frame has a higher class of service than the first frame; and

a plurality of attempt counters, each to count transmission attempts by the transmitter of frames in one of a plurality of classes of service;

wherein the controller, after terminating the transmission, increments the attempt counter for the class of service of the first frame and for any other class of service that is not greater than the class of service of the first frame and for which a frame is pending transmission, and discards all pending frames having an attempt count that exceeds a predetermined attempt threshold.

41. (Original) The apparatus of claim 40, wherein the transmitter, in response to the controller, sends a jam signal before transmitting the second frame.



42. (Original) The apparatus of claim 40, further comprising:  
an attempt counter to count transmission attempts by the transmitter;  
wherein the controller, after terminating the transmission of the transmitter,  
increments the attempt counter; and  
wherein the controller discards the first frame when the attempt count of  
transmission attempts by the attempt counter exceeds a predetermined attempt  
threshold.

43. (Original) The apparatus of claim 40, wherein each class of service has a  
predetermined attempt threshold, further comprising:  
an attempt counter to count transmission attempts by the transmitter;  
wherein the controller, after terminating the transmission of the transmitter,  
increments the attempt counter; and  
wherein the controller discards the first frame when the attempt count of  
transmission attempts by the attempt counter exceeds the predetermined attempt  
threshold for the class of service of the first frame.

44. (Original) The apparatus of claim 40, further comprising:  
an attempt counter to count transmission attempts by the transmitter;  
wherein the controller, after terminating the transmission of the transmitter,  
increments the attempt counter; and  
wherein the controller discards the first frame when the attempt count of  
transmission attempts by the attempt counter exceeds a predetermined attempt

threshold and the class of service of the first frame falls below a predetermined discard threshold.

45. (Original) The apparatus of claim 40, further comprising:

a calculator to calculate a back-off period after terminating the transmission when no frame ready for transmission has a higher class of service than the first frame; and

wherein the transmitter retransmits the first frame when the back-off period has elapsed.

46. (Original) The apparatus of claim 45, wherein the calculator computes the back-off period as a function of the class of service of the first frame.

47. (Cancelled)

48. (Currently Amended) The apparatus of claim 47 40, wherein the controller, before transmitting the second frame, transmits a pending frame having a highest class of service that is less than the class of service of the first frame if the first frame was discarded.

49. (Currently Amended) An apparatus for use in a half-duplex channel, the apparatus comprising:

a transmitter to transmit data over the half duplex channel;

a controller to terminate the transmitter from transmitting a first frame of the data when a collision is detected during the transmission;

a first port that includes the transmitter and that sends a replace signal that indicates a class of service of the first frame;

a switch controller that receives the replace signal and that determines whether a second frame of the data has a higher class of service than the first frame in response to the replace signal,

wherein the transmitter, in response to the controller, transmits the second frame of the data before retransmitting the first frame when the second frame has a higher class of service than the first frame and ~~The apparatus of claim 40, wherein each class of service has a predetermined attempt threshold, further comprising;~~ and

a plurality of attempt counters, each to count transmission attempts by the first transmitter of frames in one of a plurality of classes of service;

wherein the controller, after terminating the transmission of the transmitter, increments the attempt counter for the class of service of the first frame and for any other class of service that is not greater than the class of service of the first frame and for which a frame is pending transmission by the transmitter; and

wherein the controller discards each pending frame when the attempt count of transmission attempts by the attempt counter for that frame exceeds the predetermined attempt threshold for the class of service for that frame.

50. (Currently Amended) An apparatus for use in a half-duplex channel, the apparatus comprising:

a transmitter to transmit data over the half duplex channel;

a controller to terminate the transmitter from transmitting a first frame of the data when a collision is detected during the transmission;

a first port that includes the transmitter and that sends a replace signal that indicates a class of service of the first frame;

a switch controller that receives the replace signal and that determines whether a second frame of the data has a higher class of service than the first frame in response to the replace signal,

wherein the transmitter, in response to the controller, transmits the second frame of the data before retransmitting the first frame when the second frame has a higher class of service than the first frame; and ~~The apparatus of claim 40, further comprising:~~

a plurality of attempt counters, each to count transmission attempts by the first transmitter of frames in one of a plurality of classes of service;

wherein the controller, after terminating the transmission of the transmitter, increments the attempt counter for the class of service of the first frame and for any other class of service that is not greater than the class of service of the first frame and for which a frame is pending transmission by the transmitter; and

wherein the controller discards a given pending frame having an attempt count of transmission attempts by the attempt counter that exceeds a predetermined attempt threshold when the class of service of the given pending frame falls below a predetermined discard threshold.

51. (Original) The apparatus of claim 40, further comprising:

a calculator to calculate a back-off period after terminating the transmission when no frame ready for transmission has a higher class of service than the first frame; and

wherein the transmitter retransmits the first frame when the back-off period has elapsed.

52. (Original) The apparatus of claim 51, wherein the calculator computes the back-off period as a function of the class of service of the first frame.

53. (Previously Presented) A network switch comprising:

a first port in communication with a first half-duplex channel;

a second port in communication with a second half-duplex channel;

a memory wherein the first and third frames are the same and the second and fourth frames are the same;

wherein the first port communicates with the second port via the memory;

wherein the first port comprises:

a first transmitter to transmit data over the first half-duplex channel;

a first controller to terminate the first transmitter from transmitting a first frame of the data when a collision is detected during the transmission and to determine a class of service for each frame; and

wherein the first transmitter transmits a second frame of the data before retransmitting the first frame when the second frame has a higher class of service than the first frame; and

wherein the second port comprises:

a second transmitter to transmit data over the second half-duplex channel;

a second controller to terminate the second transmitter from transmitting a third frame of the data when a collision is detected during the transmission and to determine a class of service for each frame; and

wherein the second transmitter transmits a fourth frame of the data before retransmitting the third frame when the fourth frame has a higher class of service than the third frame.

54. (Original) The network switch of claim 53, wherein the memory comprises:

a first memory portion to store the first and second frames; and

a second memory portion to store the third and fourth frames.

55. (Cancelled)

56. (Original) The network switch of claim 53, wherein each of the first and second transmitters, in response to the first and second controllers, respectively, sends a jam signal before transmitting the second and fourth frames, respectively.

57. (Original) The network switch of claim 53, wherein the first port comprises:

an attempt counter to count transmission attempts by the first transmitter.

58. (Original) The network switch of claim 57, wherein the first controller, after terminating the first transmitter from transmitting:

increments the attempt counter; and

discards the first frame when the attempt count of transmission attempts by the attempt counter exceeds a predetermined attempt threshold.

59. (Original) The network switch of claim 57, wherein each class of service has a predetermined attempt threshold, and wherein the first controller, after terminating the first transmitter from transmitting:

increments the attempt counter; and

discards the first frame when the attempt count of transmission attempts by the attempt counter exceeds the predetermined attempt threshold for the class of service of the first frame.

60. (Original) The network switch of claim 57, wherein the first controller, after terminating the first transmitter from transmitting:

increments the attempt counter; and

discards the first frame when the attempt count of transmission attempts by the attempt counter exceeds a predetermined attempt threshold and the class of service of the first frame falls below a predetermined discard threshold.

61. (Original) The network switch of claim 53, wherein:

the first controller computes a back-off period after terminating the transmission when no frame in the first memory portion has a higher class of service than the first frame; and

the first transmitter, in response to the first controller, retransmits the first frame when the back-off period has elapsed.

62. (Original) The network switch of claim 61, wherein computing the back-off period comprises:

computing the back-off period as a function of the class of service of the first frame.

63. (Previously Presented) A network switch comprising:

a first port in communication with a first half-duplex channel;

a second port in communication with a second half-duplex channel;

a memory;

wherein the first port communicates with the second port via the memory;

wherein the first port comprises:

a first transmitter to transmit data over the first half-duplex channel;



a first controller to terminate the first transmitter from transmitting a first frame of the data when a collision is detected during the transmission and to determine a class of service for each frame; and

wherein the first transmitter transmits a second frame of the data before retransmitting the first frame when the second frame has a higher class of service than the first frame; and

wherein the second port comprises:

a second transmitter to transmit data over the second half-duplex channel;

a second controller to terminate the second transmitter from transmitting a third frame of the data when a collision is detected during the transmission and to determine a class of service for each frame; and

wherein the second transmitter transmits a fourth frame of the data before retransmitting the third frame when the fourth frame has a higher class of service than the third frame; and

wherein the first transmitter, before transmitting the second frame, in response to the first controller, transmits a pending frame having the highest class of service that is less than the class of service of the first frame if the first frame was discarded.

64. (Previously Presented) A network switch comprising:

a first port in communication with a first half-duplex channel;

a second port in communication with a second half-duplex channel;

a memory;

wherein the first port communicates with the second port via the memory;

wherein the first port comprises:

a first transmitter to transmit data over the first half-duplex channel;

a first controller to terminate the first transmitter from transmitting a first frame of the data when a collision is detected during the transmission and to determine a class of service for each frame; and

wherein the first transmitter transmits a second frame of the data before retransmitting the first frame when the second frame has a higher class of service than the first frame; and

wherein the second port comprises:

a second transmitter to transmit data over the second half-duplex channel;

a second controller to terminate the second transmitter from transmitting a third frame of the data when a collision is detected during the transmission and to determine a class of service for each frame; and

wherein the second transmitter transmits a fourth frame of the data before retransmitting the third frame when the fourth frame has a higher class of service than the third frame; and

wherein the first controller, after terminating the first transmitter from transmitting:

increments the attempt counter for the class of service of the first frame and the attempt counters for any other class of service that is not greater than the class of service of the first frame and for which a frame is pending transmission; and

discards all pending frames having an attempt count of transmission attempts by one of the attempt counters that exceeds a predetermined attempt threshold.

65. (Previously Presented) A network switch comprising:
- a first port in communication with a first half-duplex channel;
  - a second port in communication with a second half-duplex channel;
  - a memory;
  - wherein the first port communicates with the second port via the memory;
  - wherein the first port comprises:
    - a first transmitter to transmit data over the first half-duplex channel;
    - a first controller to terminate the first transmitter from transmitting a first frame of the data when a collision is detected during the transmission and to determine a class of service for each frame; and
    - wherein the first transmitter transmits a second frame of the data before retransmitting the first frame when the second frame has a higher class of service than the first frame; and
  - wherein the second port comprises:
    - a second transmitter to transmit data over the second half-duplex channel;
    - a second controller to terminate the second transmitter from transmitting a third frame of the data when a collision is detected during the transmission and to determine a class of service for each frame; and

wherein the second transmitter transmits a fourth frame of the data before retransmitting the third frame when the fourth frame has a higher class of service than the third frame; and

wherein each class of service has a predetermined attempt threshold, and wherein the first controller, after terminating the first transmitter from transmitting:

increments the attempt counter for the class of service of the first frame and the attempt counters for any other class of service that is not greater than the class of service of the first frame and for which a frame is pending transmission; and

discards each pending frame having an attempt count of transmission attempts by one of the attempt counters that exceeds the predetermined attempt threshold for the class of service of that frame.

66. (Previously Presented) A network switch comprising:
- a first port in communication with a first half-duplex channel;
  - a second port in communication with a second half-duplex channel;
  - a memory;
  - wherein the first port communicates with the second port via the memory;
  - wherein the first port comprises:
    - a first transmitter to transmit data over the first half-duplex channel;
    - a first controller to terminate the first transmitter from transmitting a first frame of the data when a collision is detected during the transmission and to determine a class of service for each frame; and

wherein the first transmitter transmits a second frame of the data before retransmitting the first frame when the second frame has a higher class of service than the first frame; and

wherein the second port comprises:

a second transmitter to transmit data over the second half-duplex channel;

a second controller to terminate the second transmitter from transmitting a third frame of the data when a collision is detected during the transmission and to determine a class of service for each frame; and

wherein the second transmitter transmits a fourth frame of the data before retransmitting the third frame when the fourth frame has a higher class of service than the third frame; and

wherein the first controller, after terminating the first transmitter from transmitting:

increments the attempt counter for the class of service of the first frame and the attempt counters for any other class of service that is not greater than the class of service of the first frame and for which a frame is pending transmission; and

discards a given pending frame having an attempt count of transmission attempts by the attempt counter of the class of service of the given pending frame that exceeds a predetermined attempt threshold when the class of service of the given pending frame falls below a predetermined discard threshold.

67. (Original) The network switch of claim 53, wherein:

the first controller computes a back-off period after terminating the transmission when no frame in the first memory portion has a higher class of service than the first frame; and

the first transmitter, in response to the first controller, retransmits the first frame when the back-off period has elapsed.

68. (Original) The network switch of claim 67, wherein computing the back-off period comprises:

computing the back-off period as a function of the class of service of the first frame.

69. (Previously Presented) A network switch comprising:  
first port means for communicating on a first half-duplex channel;  
second port means for communicating on a second half-duplex channel;  
memory means for communicating with the first and second port means,  
wherein the first and third frames are the same and the second and fourth frames are the same;

wherein the first port means comprises:

first transmitter means for transmitting data over the first half-duplex channel;

first controller means for terminating the first transmitter means from transmitting a first frame of the data when a collision is detected during the transmission and for determining a class of service for each frame; and

wherein the first transmitter means transmits a second frame of the data before retransmitting the first frame when the second frame has a higher class of service than the first frame; and

wherein the second port means comprises:

second transmitter means for transmitting data over the second half-duplex channel;

second controller means for terminating the second transmitter means from transmitting a third frame of the data when a collision is detected during the transmission and for determining a class of service for each frame; and

wherein the second transmitter transmits a fourth frame of the data before retransmitting the third frame when the fourth frame has a higher class of service than the third frame.

70. (Original) The network switch of claim 69, wherein the memory comprises:

first memory portion means for storing the first and second frames; and

second memory portion means for storing the third and fourth frames.

71. (Cancelled)

72. (Original) The network switch of claim 69, wherein each of the first and second transmitter means, in response to the first and second controller means,

respectively, sends a jam signal before transmitting the second and fourth frames, respectively.

73. (Original) The network switch of claim 69, wherein the first port means further comprises:

attempt counter means to count transmission attempts by the first transmitter means.

74. (Original) The network switch of claim 73, wherein the first controller means, after terminating the first transmitter means from transmitting:

increments the attempt counter means; and

discards the first frame when the attempt count of transmission attempts by the attempt counter means exceeds a predetermined attempt threshold.

75. (Original) The network switch of claim 73, wherein each class of service has a predetermined attempt threshold, and wherein the first controller means, after terminating the first transmitter means from transmitting:

increments the attempt counter means; and

discards the first frame when the attempt count of transmission attempts the attempt counter means exceeds the predetermined attempt threshold for the class of service of the first frame.



76. (Original) The network switch of claim 73, wherein the first controller means, after terminating the first transmitter from transmitting:

increments the attempt counter means; and

discards the first frame when the attempt count of transmission attempts by the attempt counter means exceeds a predetermined attempt threshold and the class of service of the first frame falls below a predetermined discard threshold.

77. (Original) The network switch of claim 69, wherein:

the first controller means computes a back-off period after terminating the transmission when no frame in the first memory portion means has a higher class of service than the first frame; and

the first transmitter means, in response to the first controller means, retransmits the first frame when the back-off period has elapsed.

78. (Original) The network switch of claim 77, wherein computing the back-off period comprises:

computing the back-off period as a function of the class of service of the first frame.

79. (Previously Presented) A network switch comprising:

first port means for communicating on a first half-duplex channel;

second port means for communicating on a second half-duplex channel;

memory means for communicating with the first and second port means;

wherein the first port means comprises:

first transmitter means for transmitting data over the first half-duplex channel;

first controller means for terminating the first transmitter means from transmitting a first frame of the data when a collision is detected during the transmission and for determining a class of service for each frame; and

wherein the first transmitter means transmits a second frame of the data before retransmitting the first frame when the second frame has a higher class of service than the first frame; and

wherein the second port means comprises:

second transmitter means for transmitting data over the second half-duplex channel;

second controller means for terminating the second transmitter means from transmitting a third frame of the data when a collision is detected during the transmission and for determining a class of service for each frame; and

wherein the second transmitter transmits a fourth frame of the data before retransmitting the third frame when the fourth frame has a higher class of service than the third frame; and

wherein the first transmitter means, before transmitting the second frame, in response to the first controller means, transmits a pending frame having the highest class of service that is less than the class of service of the first frame if the first frame was discarded.

80. (Previously Presented) A network switch comprising:

- first port means for communicating on a first half-duplex channel;
- second port means for communicating on a second half-duplex channel;
- memory means for communicating with the first and second port means;
- wherein the first port means comprises:
  - first transmitter means for transmitting data over the first half-duplex channel;
  - first controller means for terminating the first transmitter means from transmitting a first frame of the data when a collision is detected during the transmission and for determining a class of service for each frame; and
  - wherein the first transmitter means transmits a second frame of the data before retransmitting the first frame when the second frame has a higher class of service than the first frame; and
- wherein the second port means comprises:
  - second transmitter means for transmitting data over the second half-duplex channel;
  - second controller means for terminating the second transmitter means from transmitting a third frame of the data when a collision is detected during the transmission and for determining a class of service for each frame; and
  - wherein the second transmitter transmits a fourth frame of the data before retransmitting the third frame when the fourth frame has a higher class of service than the third frame; and

wherein the first controller means, after terminating the first transmitter means from transmitting:

increments the attempt counter for the class of service of the first frame and the attempt counters for any other class of service that is not greater than the class of service of the first frame and for which a frame is pending transmission; and

discards all pending frames having an attempt count of transmission attempts by one of the attempt counter means that exceeds a predetermined attempt threshold.

81. (Previously Presented) A network switch comprising:

first port means for communicating on a first half-duplex channel;

second port means for communicating on a second half-duplex channel;

memory means for communicating with the first and second port means;

wherein the first port means comprises:

first transmitter means for transmitting data over the first half-duplex channel;

first controller means for terminating the first transmitter means from transmitting a first frame of the data when a collision is detected during the transmission and for determining a class of service for each frame; and

wherein the first transmitter means transmits a second frame of the data before retransmitting the first frame when the second frame has a higher class of service than the first frame; and

wherein the second port means comprises:

second transmitter means for transmitting data over the second half-duplex channel;

second controller means for terminating the second transmitter means from transmitting a third frame of the data when a collision is detected during the transmission and for determining a class of service for each frame; and

wherein the second transmitter transmits a fourth frame of the data before retransmitting the third frame when the fourth frame has a higher class of service than the third frame; and

wherein each class of service has a predetermined attempt threshold, and wherein the first controller means, after terminating the first transmitter means from transmitting:

increments the attempt counter for the class of service of the first frame and the attempt counters for any other class of service that is not greater than the class of service of the first frame and for which a frame is pending transmission; and

discards each pending frame having an attempt count of transmission attempts by one of the attempt counter means that exceeds the predetermined attempt threshold for the class of service of that frame.

82. (Previously Presented) A network switch comprising:

first port means for communicating on a first half-duplex channel;

second port means for communicating on a second half-duplex channel;

memory means for communicating with the first and second port means;

wherein the first port means comprises:

first transmitter means for transmitting data over the first half-duplex channel;

first controller means for terminating the first transmitter means from transmitting a first frame of the data when a collision is detected during the transmission and for determining a class of service for each frame; and

wherein the first transmitter means transmits a second frame of the data before retransmitting the first frame when the second frame has a higher class of service than the first frame; and

wherein the second port means comprises:

second transmitter means for transmitting data over the second half-duplex channel;

second controller means for terminating the second transmitter means from transmitting a third frame of the data when a collision is detected during the transmission and for determining a class of service for each frame; and

wherein the second transmitter transmits a fourth frame of the data before retransmitting the third frame when the fourth frame has a higher class of service than the third frame; and

wherein the first controller means, after terminating the first transmitter from transmitting:

increments the attempt counter for the class of service of the first frame and the attempt counters for any other class of service that is not greater than the class of service of the first frame and for which a frame is pending transmission; and

discards a given pending frame having an attempt count of transmission attempts by the attempt counter means of the class of service of the given pending frame that exceeds a predetermined attempt threshold when the class of service of the given pending frame falls below a predetermined discard threshold.

83. (Original) The network switch of claim 69, wherein:

the first controller means computes a back-off period after terminating the transmission when no frame in the first memory portion means has a higher class of service than the first frame; and

the first transmitter means, in response to the first controller means, retransmits the first frame when the back-off period has elapsed.

84. (Original) The network switch of claim 83, wherein computing the back-off period comprises:

computing the back-off period as a function of the class of service of the first frame.